IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Re: Appeal to the Board of Patent Appeals and Interferences

In re PATENT application of
DESAI

Group Art Unit: 2151

Application No. 09/986,967

Examiner: TRAN, Nghi V.

Filed: November 13, 2001

Title: Arrangement for Providing Content Operation Identifiers with a Specified HTTP Object for Acceleration of Relevant Content Operations

Docket : 95-472

Date: February 22, 2006

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

1 ☐ **NOTICE OF APPEAL**: Applicant hereby appeals to the Board of Patent Appeals and Interferences from the decision (not Advisory Action) dated September 21, 2005 of the Examiner twice/finally rejecting claims 1-33. [ ] ATTACHED: Pre-Appeal Brief Request for Review

2 ☒ **BRIEF** on appeal in this application attached.

3 ☐ An **ORAL HEARING** is respectfully requested under Rule 194 (due two months after Examiner's Answer -- unextendable).

4 ☐ Reply Brief is attached (due two months after Examiner's Answer -- unextendable).

5. **FEE CALCULATION**:		Large/Small Entity	
If box 1 above is X'd, see box 12 below first and decide: . . . . . enter		$500/250*	$
If box 2 above is X'd, see box 12 below first and decide: . . . . . enter		$500/250*	$ 500.00
If box 3 above is X'd, see box 12 below first and decide: . . . . . enter		$1000/500*	$
If box 4 above is X'd, ... enter nothing		- 0 - (no fee)	
6. Original due date: February 22, 2006			
7. **Petition is hereby made** to extend the original due date to cover the date this response is filed for which the requisite fee is attached	(1 mo) $120 (2mos) $450 (3mos) $1020 (4mos) $1590	+	
8. Enter any previous extension fee paid [ ] previously since above original due date (item 6); [ ] with concurrently filed amendment		-	
9. **Subtract line8 from line7 and enter: Total Extension Fee**			+0
10. **TOTAL FEE ATTACHED =**			**$ 500.00**

11. ☐ *Fee NOT required if/since paid in prior appeal in which the Board of Patent Appeals and Interferences did not render a decision on the merits.

CHARGE STATEMENT: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficient fee only) now or hereafter relative to this application and the resulting Official document under Rule 20, or credit any overpayment, to our Account/Order No. 50-1130 / 95-472 for which purpose a duplicate copy of this sheet is attached. **This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal form is filed**

Atty: L R T

Leon R. Turkevich
Reg. No. 34,035
Tel: (202) 261.1014
Fax: (202) 887-0336

Customer No. 23164

Docket No.: 95-472 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	
DESAI	:	
Serial No.: 09/986,967	:	Group Art Unit: 2151
Filed: November 13, 2001	:	Examiner: TRAN, Nghi V.

For: ARRANGEMENT FOR PROVIDING CONTENT OPERATION IDENTIFIERS WITH A SPECIFIED HTTP OBJECT FOR ACCELERATION OF RELEVANT CONTENT OPERATIONS

MAIL STOP: APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This is an appeal from the final rejection of claims 1-38 in the above-identified patent application.

This Appeal Brief is submitted as required by 37 C.F.R. §41.37.

1. Real Party in Interest:

This application is assigned to Cisco Technology, Inc., the real party of interest.

2. Related Appeals and Interferences:

There are no other appeals or interferences known to Appellant that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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3. Status of Claims:

Claims 1-38 are pending in this application. Claims 1-38 stand rejected by the Examiner, and claims 1-38 are appealed.

4. Status of any Amendment File Subsequent to Final Rejection:

No Amendment was filed in response to the Final Rejection. A Response to the Final Rejection was filed on November 21, 2005.

5. Summary of Claimed Subject Matter:

The claimed subject matter includes independent claims 1, 13, 20 and 32, and dependent claims 2-12, 14-19, 21-31, and 33-38. Independent claims 1, 13, 20 and 32 each specify transfer of an HTTP response (e.g., 60 of Fig. 3B transferred by server process 32 of Fig. 1 in step 84 of Fig. 4A, or by proxy agent 22 of Fig. 1 in step 98 of Fig. 4B) to an HTTP request (HTTP Get Request in step 84 of Fig. 4A, or step 90 of Fig. 4B), where the HTTP response includes a first content object (34 of Figs. 1, 3A and 3B), having been requested in the HTTP request and a content operation identifier (e.g., 40 of Fig. 2A, 46a of Fig. 2B): the content operation identifier specifies a directive (e.g., 42a of Fig. 2A, 50 of Fig. 2B) for prefetching an identified second content object (e.g., 44a of Fig. 2A, 52 of Fig. 2B), where the prefetching is a content operation that is distinct from presentation of the first content object.

Hence, any device (e.g., 16a or 16b of Fig. 1) receiving the HTTP response (e.g., 60 of Fig. 3B) is able to present not only the first content object (e.g., 34 of Fig. 3B), but also is able to ***prefetch*** (102 or 106 of Fig. 4B) the second content object (e.g., 44a, 44b, 44c of Fig. 2A, 52 of Fig. 2B) based on receipt of the content operation identifier (40 of Fig. 2A, 46 of Fig. 2B). Consequently, any device that receives the HTTP response can prefetch the second content object for acceleration of web content for a user.

The claimed subject matter addresses the problem in existing proxy cache techniques of requiring a request for the web content to have been previously requested by a client device, where a client device cannot enjoy any benefits of proxy caching if a prior client device has not

previously requested the same web content (see, e.g., page 1, line 23 to page 3, line 2), without the necessity of additional resources executed by the client device (page 2, 4-20).

Hence, independent claim 1 specifies a method of providing content to a device (e.g., 16a of Fig. 1) according to Hypertext Transport Protocol (HTTP), the method comprising receiving an HTTP request (HTTP interface 20 of server 12b receives HTTP Get request in 74 of Fig. 4A; page 6, lines 24-26, page 9, lines 14-15) for a first content object (34 of Figs. 1, 3A, 3B, page 6, line 27 to page 7, line 7). The method also includes identifying (70 of Fig. 4A, page 9, lines 6-13) a content operation identifier (tag file 36 stores content operation tags 40 of Fig. 2A or extensible HTTP headers 46 of Fig. 2B, page 7, lines 11-15, page 8, lines 10-13) that identifies a corresponding second content object (44 of Fig. 2A or 52 of Fig. 2B, page 7, lines 16-18 and 21-24; page 8, lines 11-13 and 16-18, page 10, lines 10-11) determined as relevant to the first content object by a predictive caching operation (70 of Fig. 4A, page 2, lines 5-6 and page 9, lines 6-10), the content operation identifier including a directive (e.g., 42a of Fig. 2A, page 7, lines 16-17; 50 of Fig. 2B, page 8, lines 11-18) for prefetching (page 7, lines 12-24) the second content object as a content operation distinct from presentation of the first content object by the device (page 8, lines 7-9). The method also includes sending to the device an HTTP response to the HTTP request (84 of Fig. 4A, page 9, lines 19-25, page 10, lines 2-3), the HTTP response including the first content object and the content operation identifier, enabling the device (e.g.; 16b of Fig. 1) to perform the prefetching of the second content object based on receipt of the content operation identifier and distinct from the presentation of the first content object (steps 94 through 106 of Fig. 4B, page 9, line 26 to page 10, line 23).

Claim 2 adds to the method of claim 1, wherein the identifying step includes retrieving (76 of Fig. 4A, page 9, lines 14-18), based on retrieval of a first stored file (34 of Fig. 1) containing the first content object, a second stored file (36 of Fig. 1) associated with the first stored file and containing the content operation identifier.

Claim 3 adds to the method of claim 2, wherein the sending step includes adding to the first content object (34 of Figs. 1, 3A and 3B) a content operation tag (36a of Fig. 2A includes content operation tag 40 of Fig. 2A, page 7, lines 11-15) that specifies the content operation

identifier including a directive tag (42a of Fig. 2A, page 7, lines 16-20) specifying the corresponding content operation to be performed by the device and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) that specifies a location of the second content object.

Claim 4 adds to the method of claim 3, wherein the first content object is a Hypertext Markup Language (HTML) document (34 of Fig. 3A), the adding step including inline prepending (82 of Fig. 4A, 60 of Fig. 3B, page 9, lines 19-23) the content operation tag from the second stored file into the HTML document.

Claim 5 adds to the method of claim 4, wherein the content operation identifier further includes a second directive tag (42b of Fig. 2A) specifying purging a third content object (44d, 44e of Fig. 2A, page 7, lines 18-20 and 22-24) from a cache.

Claim 6 adds to the method of claim 2, wherein the sending step includes inserting into the HTTP response at least one extensible HTTP header (e.g., 46a of Fig. 2B, step 80 of Fig. 4A, page 8, lines 10-20; page 9, lines 19-20) that specifies the content operation identifier including said directive (50 of Fig. 2B) to be performed by the device and an object identifier (52 of Fig. 2B) that specifies a location of the second content object.

Claim 7 adds to the method of claim 6, wherein the content operation identifier further includes a second directive (tag file 36b of Fig. 2B includes headers 46d, 46e) that specifies purging a third content object.

Claim 8 adds to the method of claim 1, wherein the sending step includes adding to the first content object (34 of Figs. 1, 3A and 3B) a content operation tag (36a of Fig. 2A includes content operation tag 40 of Fig. 2A, page 7, lines 11-15) that specifies the content operation identifier including a directive tag (42a of Fig. 2A, page 7, lines 16-20) specifying the corresponding content operation to be performed by the device and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) that specifies a location of the second content object.

Claim 9 adds to the method of claim 8, wherein the first content object is a Hypertext Markup Language (HTML) document (34 of Fig. 3A), the adding step including inline prepending (82 of Fig. 4A, 60 of Fig. 3B, page 9, lines 19-23) the content operation tag into the HTML document.

Claim 10 adds to the method of claim 9, wherein the content operation identifier further includes a second directive tag (42b of Fig. 2A) specifying purging a third content object (44d, 44e of Fig. 2A, page 7, lines 18-20 and 22-24) from a cache.

Claim 11 adds to the method of claim 1, wherein the sending step includes inserting into the HTTP response at least one extensible HTTP header (e.g., 46a of Fig. 2B, step 80 of Fig. 4A, page 8, lines 10-20; page 9, lines 19-20) that specifies the content operation identifier including the directive (50 of Fig. 2B) to be performed by the device and an object identifier (52 of Fig. 2B) that specifies a location of the second content object.

Claim 12 adds to the method of claim 11, wherein the content operation identifier further includes a second directive (tag file 36b of Fig. 2B includes headers 46d, 46e) specifying purging a third content object from a cache.

Independent 13 specifies a method of retrieving content for a device (e.g., 16b or 14b) according to Hypertext Transport Protocol. The method comprises first sending an HTTP request (resource 22 of proxy device 16a in Fig. 1 forwards request in step 92 of Fig. 4B, page 9, line 26 to page 10, line 2) for a first content object (34 of Figs. 1, 3A, 3B), received from the device (14b or 16b of Fig. 1, page 9, line 26 to page 10, line 2), to a destination server (12b of Fig. 1, page 10, line 2) specified by the HTTP request. The method also includes receiving from the destination server an HTTP response to the HTTP request (step 94 of Fig. 4B, page 10, lines 2-4) that includes the first content object (34 of Figs. 1, 3A, 3B) and a content operation identifier (40 of Fig. 2A or extensible HTTP headers 46 of Fig. 2B, page 7, lines 11-15, page 8, lines 10-13 and 21-26) that specifies a directive (42a of Fig. 2A, page 7, lines 16-17; 50 of Fig. 2B, page 8, lines 11-18 and 22-26) for prefetching an identified second content object (page 7, lines 12-24) as an operation to be performed on the identified second content object and distinct from presentation of the first content object. The method also includes second sending the first content object (98 of Fig. 4B, page 10, lines 5-6) to the device (14b or 16b of Fig. 1, page 10, lines 5-6). The method also includes executing the operation of prefetching the second content object in response to the content operation identifier (steps 102 or 106 by proxy agent 22 of proxy 16a of Fig. 1, page 10, lines 7-23).

Claim 14 adds to the method of claim 13, wherein the executing step includes detecting the content operation identifier based on parsing the HTTP response (step 96 of Fig. 4B, page 10, lines 2-4), and accessing the identified second content object for execution of the operation (steps 102 or 104 of Fig. 4B, page 10, lines 7-23).

Claim 15 adds to the method of claim 14, wherein the detecting step includes parsing a markup language document within the HTTP response (steps 104, 106 of Fig. 4B) and containing the first content object (34 of Figs. 1, 3A and 3B) and the content operation identifier (40 of Figs. 2A and 3B), the content operation identifier including a directive tag (42a of Fig. 2A) specifying the corresponding operation and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) specifying a location of the second content object.

Claim 16 adds to the method of claim 15, wherein the parsing step includes detecting (104 of Fig. 4B) the directive tag as an Hypertext Markup Language (HTML) tag inline prepended (36a of Fig. 3B) to an HTML document (34 of Fig. 3B) specifying the first content object.

Claim 17 adds to the method of claim 16, wherein the executing step further includes purging (102 or 106 of Fig. 4B) a third content object from a cache in response to a second directive tag (42b of Fig. 2A) specified in the markup language document.

Claim 18 adds to the method of claim 14, wherein the parsing step includes parsing the content operation identifier from an HTTP header within the HTTP response (steps 100 and 102 of Fig. 4B, page 10, lines 7-11), the content operation identifier (e.g., 46a of Fig. 2B) including said directive (50 of Fig. 2B) and an object identifier (52 of Fig. 2B, page 8, lines 10-20) specifying a location of the second content object.

Claim 19 adds to the method of claim 18, wherein the executing step further includes purging (102 of Fig. 4B) a third content object from a cache in response to a second directive tag (e.g., 46d or 46e of Fig. 2B) specified in the HTTP response.

Independent claim 20 specifies a server (12b of Fig. 1, page 4, line 27 to page 5, line 2) configured for providing content to a device according to Hypertext Transport Protocol (HTTP). The server comprises an interface (20 of Fig. 1, page 6, lines 10-12 and 22-26) configured for

receiving an HTTP request (74 of Fig. 4A) for a first content object (34 of Fig. 1) and outputting an HTTP response (e.g., 60 of Fig. 3B, 84 of Fig. 4A, page 6, lines 22-26, page 9, lines 18-25). The server also includes an executable process (32 of Fig. 1) configured for identifying (70 of Fig. 4A, page 9, lines 6-13) a content operation identifier (tag file 36 stores content operation tags 40 of Fig. 2A or extensible HTTP headers of Fig. 2B, page 7, lines 11-15, page 8, lines 10-13) that identifies a corresponding second content object (44 of Fig. 2A or 52 of Fig. 2B, page 7, lines 16-18 and 21-24; page 8, lines 11-13 and 16-18, page 10, lines 10-11) determined as relevant to the first content object by a predictive caching operation (70 of Fig. 4A, page 2, lines 5-6 and page 9, lines 6-10), the content operation identifier including a directive (e.g., 42a of Fig. 2A, page 7, lines 16-17; 50 of Fig. 2B, page 8, lines 11-18) for prefetching (page 7, lines 12-24) the second content object as a content operation distinct from presentation of the first content object by the device (page 8, lines 7-9), the executable process configured for supplying (80 or 82 of Fig. 4A, page 9, lines 19-23) within the HTTP response (e.g., 60 of Fig. 3B) the first content object (34 of Fig. 3B) and the content operation identifier (36a of Fig. 3B), enabling the device to perform the prefetching of the second content object based on receipt of the content operation identifier within the HTTP response and distinct from the presentation of the first content object (steps 94 through 106 of Fig. 4B, page 9, line 26 to page 10, line 23).

Claim 21 adds to the server of claim 20, wherein the executable process is configured for retrieving (76 of Fig. 4A, page 9, lines 14-18), based on retrieval of a first stored file (34 of Fig. 1) containing the first content object, a second stored file (36 of Fig 1.) associated with the first stored file and containing the content operation identifier.

Claim 22 adds to the server of claim 21, wherein the executable process is configured for adding to the first content object (34 of Figs. 1, 3A, and 3B) a content operation tag (36a of Fig. 2A includes content operation tag of Fig. 2A, page 7, lines 11-15) that specifies the content operation identifier including a directive tag (42a of Fig. 2A, page 7, lines 16-20) specifying the corresponding content operation to be performed by the device and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) that specifies a location of the second content object.

Claim 23 adds to the server of claim 22, wherein the first content object is a Hypertext Markup Language (HTML) document (34 of Fig. 3A), the executable process configured for inline prepending (82 of Fig. 4A, 60 of Fig. 3B, page 9, lines 19-23) the content operation tag from the second stored file into the HTML document.

Claim 24 adds to the server of claim 23, wherein the content operation identifier further includes a second directive tag (42b of Fig. 2A) specifying purging a third content object (44d, 44e of Fig. 2A, page 7, lines 18-20 and 22-24) from a cache.

Claim 25 adds to the server of claim 21, wherein the executable process is configured for inserting into the HTTP response at least one extensible HTTP header (e.g., 46a of Fig. 2B, step 80 of Fig. 4A, page 8, lines 10-20; page 9, lines 19-20) that specifies the content operation identifier including said directive (50 of Fig. 2B) to be performed by the device and an object identifier (52 of Fig. 2B) that specifies a location of the second content object.

Claim 26 adds to the server of claim 25, wherein the content operation identifier further includes a second directive (tag file 36b of Fig. 2B includes headers 46d, 46e) that specifies purging a third content object.

Claim 27 adds to the server of claim 20, wherein the executable process is configured for adding to the first content object (34 of Figs. 1, 3A, and 3B) a content operation tag (36a of Fig. 2A includes content operation tag 40 of Fig. 2A, page 7, lines 11-15) that specifies the content operation identifier including a directive tag (42a of Fig. 2A, page 7, lines 16-20) specifying the corresponding content operation to be performed by the device and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) that specifies a location of the second content object.

Claim 28 adds to the server of claim 27, wherein the first content object is a Hypertext Markup Language (HTML) document (34 of Fig. 3A), the executable process configured for inline prepending (82 of Fig. 4A, 60 of Fig. 3B, page 9, lines 19-23) the content operation tag into the HTML document.

Claim 29 adds to the server of claim 28, wherein the content operation identifier further includes a second directive tag (42b of Fig. 2A) specifying purging a third content object (44d, 44e of Fig. 2A, page 7, lines 18-20 and 22-24) from a cache.

Claim 30 adds to the server of claim 20, wherein the executable process is configured for inserting into the HTTP response at least one extensible HTTP header (e.g., 46a of Fig. 2B, step 80 of Fig. 4A, page 8, lines 10-20; page 9, lines 19-20) that specifies the content operation identifier including said directive (50 of Fig. 2B) to be performed by the device and an object identifier (52 of Fig. 2B) that specifies a location of the second content object.

Claim 31 adds to the server of claim 30, wherein the content operation identifier further includes a second directive (tag file 36b of Fig. 2B includes headers 46d, 46e) specifying purging a third content object from a cache.

Independent claim 32 specifies a proxy device (16a of Fig. 1) configured for retrieving content for a device (16b or 14b of Fig. 1) according to Hypertext Transport Protocol. The proxy device comprises an HTTP interface (20 of Fig. 1, page 6, lines 10-13) configured for sending (92 of Fig. 4B, page 9, line 26 to page 10, line 2) an HTTP request for a first content object (34 of Figs. 1, 3A, 3B), received from the device (14b or 16b of Fig. 1, page 9, line 26 to page 10, line 2), to a destination server (12b of Fig. 1, page 10, line 2) specified by the HTTP request, and receiving from the destination server an HTTP response to the HTTP request (step 94 of Fig. 4B, page 10, lines 2-4) that includes the first content object (34 of Figs. 1, 3A, 3B) and a content operation identifier (40 of Fig. 2A or extensible HTTP headers 46 of Fig. 2B, page 7, lines 11-15, page 8, lines 10-13 and 21-26) that specifies a directive (42a of Fig. 2A, page 7, lines 16-17; 50 of Fig. 2B, page 8, lines 11-18 and 22-26) for prefetching an identified second content object (page 7, lines 12-24) as an operation to be performed on an identified second content object and distinct from presentation of the first content object. The proxy device also includes an executable resource configured for sending via the HTTP interface the first content object (98 of Fig. 4B, page 10, lines 5-6) to the device (14b or 16b of Fig. 1, page 10, lines 5-6), and executing the operation of prefetching the second content object in response to the content operation identifier (steps 102 or 106 by proxy agent 22 of proxy 16a of Fig. 1, page 10, lines 7-23).

Claim 33 adds to the proxy device of claim 32, wherein the executable resource is configured for parsing the HTTP response (step 96 of Fig. 4B, page 10, lines 2-4) to detect the

content operation identifier, the executable resource accessing the identified second content object for execution of the operation (steps 102 or 104 of Fig. 4B, page 10, lines 7-23).

Claim 34 adds to the proxy device of claim 33, wherein the executable resource is configured for parsing a markup language document within the HTTP response (steps 104, 106 of Fig. 4B) and containing the first content object (34 of Figs. 1, 3A and 3B) and the content operation identifier (40 of Figs. 2A and 3B), the content operation identifier including a directive tag (42a of Fig. 2A) specifying the corresponding operation and an object identifier (e.g., 44a, 44b, 44c of Fig. 2A, page 7, lines 21-22) specifying a location of the second content object.

Claim 35 adds to the proxy device of claim 34, wherein the executable resource is configured for detecting (104 of Fig. 4B) the directive tag as an Hypertext Markup Language (HTML) tag inline prepended (36a of Fig. 3B) to an HTML document (34 of Fig. 3B) specifying the first content object.

Claim 36 adds to the proxy device of claim 35, wherein the executable resource is further configured for purging (102 or 106 of Fig. 4B) a third content object from a cache in response to a second directive tag (442b of Fig. 2A) specified in the markup language document.

Claim 37 adds to the proxy device of claim 33, wherein the executable resource is configured for parsing the content operation identifier from an HTTP header within the HTTP response (steps 100 and 102 of Fig. 4B, page 10, lines 7-11), the content operation identifier (e.g., 46a of Fig. 2B) including said directive (50 of Fig. 2B) and an object identifier (52 of Fig. 2B, page 8, lines 10-20) specifying a location of the second content object.

Claim 38 adds to the proxy device of claim 37, wherein the executable resource is configured for purging (102 of Fig. 4B) a third content object from a cache in response to a second directive tag (e.g., 46d or 46e of Fig. 2B) specified in the HTTP response.

6. Grounds of Rejection to be Reviewed on Appeal:

A. Whether claims 1-2, 6-7, 11-14, 18-21, 25-26, 30-33, and 37-38 are unpatentable under 35 USC §102 in view of U.S. Patent No. 6,871,236 to Fishman et al.

B. Whether claims 3-5, 8-10, 15-17, 22-24, 27-29, and 34-36 are unpatentable under 35 U.S.C. §103 as having been obvious in view of U.S. Patent No. 6,871,236 to Fishman et al. in view of U.S. Patent No. 6,249,844 to Schloss et al.

7. Arguments:

A. **Claims 1, 13, 20, and 32 are not anticipated under 35 U.S.C. §102(b) in view of Fishman et al.**

The Examiner finally rejected independent claims 1, 13, 20, and 32 under 35 USC §102 in view Fishman et al. Claims 1, 13, 20 and 32 are neither anticipated nor rendered obvious by Fishman et al. for the following reasons.

A1. **Fishman et al. Does Not Disclose or Suggest the Claimed HTTP Response Including the First Content Object and Directive for Prefetching an Identified Second Content Object**

Fishman et al. fails to disclose (expressly or inherently) the claimed feature in independent claims 1, 13, 20, and 32 of sending to a device (or receiving from a destination server) an HTTP response to an HTTP request for a first content object, where the HTTP response includes not only the first content object that was requested in the HTTP request, but also a content operation identifier specifying a ***directive for prefetching a second content object*** as a content operation ***distinct from presentation of the first content object***.

Independent claims 1 and 20 each specify receiving an HTTP request for a first content object, and outputting an HTTP response that includes the first content object (requested in the HTTP request) ***and*** a directive for prefetching a second content object as a content operation distinct from presentation of the first content object ***by the device.*** Independent claim 1 specifies "sending to the device an HTTP response to the HTTP request"; independent claim 20 specifies "an interface configured for receiving an HTTP request ... and outputting an HTTP response", where the content operation identifier "enabl[es] the device to perform the prefetching of the second content object based on receipt of the content operation identifier within the HTTP

response".

Independent claims 13 and 32 each specify "sending an HTTP request for a first content object, received from the device, to a destination server specified by the HTTP request", "receiving from the destination server an HTTP response to the HTTP request that includes the first content object and ... a directive for prefetching an identified second content operation...."

Hence, the claims explicitly specify that the HTTP response, that includes the first content object and the directive for prefetching, is sent ***to the device*** in claim 1, received ***from the destination server*** in claims 13 and 32, and output ***by the interface of the server*** of claim 20. Hence, each of the independent claims inherently require that the HTTP response be transferred between devices according to HTTP protocol (e.g., sent *to the device*, received *from the destination server*, output *by the interface of the server*); consequently, it is insufficient that the HTTP response is generated by a device, but the HTTP response also must be transferred "to the device", "from the destination server", or output by an interface of the server.

Hence, the claims specify that the HTTP response that is transferred to (or from) a device (or destination server) includes not only the first content object that was requested in order to enable a requesting device to present the requested first content object, but the HTTP response also includes a directive for prefetching the second content object: the claims also specify that the directive enables prefetching of the second content object as a content operation distinct from presentation of the first content object.

The Examiner has the burden of establishing that Fishman et al. discloses each and every element of the claim such that the identical invention must be shown in as complete detail as is contained in the claim.[1] Further, Further, anticipation cannot be established based on a piecemeal application of the reference, where the Examiner picks and chooses isolated features

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[1]As specified in MPEP §2131: "'A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference' *Verdegaal Bros. V. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... 'The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." MPEP 2131 (Rev. 3, Aug. 2005, at p. 2100-76).

of the reference in an attempt to synthesize the claimed invention.[2] In other words, it is not sufficient that a single prior art reference discloses each element that is claimed, but the reference also must disclose that the elements are arranged as in the claims under review. *In re Bond*, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990) (citing *Lindemann Maschinenfabrik GmbH*).

In other words, the Examiner has the burden of establishing not only that Fishman et al. discloses an HTTP response output by a server, or that a proxy device may perform caching of requested content, but that an HTTP response is output from a server (or received by a proxy) ***in the same manner as claimed***, namely that the HTTP response output *to the device* (claims 1, 20), or received *from the destination server* (claims 13, 32), includes both the requested first content object ***and the directive for prefetching the identified second content object***.

Fishman relies on a conventional request-based system for retrieving data (i.e., HTTP request for content A results in HTTP response for content A), in order to transfer content (e.g., "A") 232 from content server 210/310 to the mobile gateway 250/350 via the communication link 240/340. There is no disclosure or suggestion in Fishman that the HTTP response from the content server 210/310 to the mobile gateway 250/350 includes anything other than the requested content (e.g., "A") because "content server 210 simply provides content **in the usual manner**" (col. 11, lines 40-41).[3] There is no disclosure or suggestion of the HTTP response from the content server 210/310 including the claimed directive for fetching a second content object (e.g., "B") that was not in the original HTTP request, in addition to the first content object (e.g., "A") that was in the original request.

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[2] "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). "Anticipation cannot be predicated on teachings in the reference which are vague or based on conjecture." *Studiengesellschaft Kohle mbH v. Dart Industries, Inc.*, 549 F. Supp. 716, 216 USPQ 381 (D. Del. 1982), *aff'd.*, 726 F.2d 724, 220 USPQ 841 (Fed. Cir. 1984).

[3]See also col. 12, lines 26-27 and 42-44: "using communication link 340, mobile gateway requests data object 332 from content server 310. ... As shown in FIG. 3C, content server 310 responds by sending data object 332 to mobile gateway 350 via communication link 340."

In addition, any request for content by a requesting device (e.g., 274/374, 276/376, 278, 279) that is received by the mobile gateway 250/350 results simply in a response from the mobile gateway 250/350 to the requesting device, the response including only the requested content in a form suited for the requesting device ("transformed content")[4].

Hence, any request for content to the content server 210/310 of Fishman results in the content server 210/310 outputting a response that consists of the requested content; any request for content to the gateway 250/350 of Fishman results in the gateway 250/350 outputting a response that consists of the requested content in a form suited for the requesting device ("transformed content").

In fact, Fishman et al provides no reference whatsoever to prefetching any content at all. As demonstrated in Footnote 4 *supra*, Fishman et al simply describes caching received data, and relies on a conventional request-based system where no data is retrieved until specifically selected by a user device (see, e.g., column 11, lines 40-41 ("content server 210 simply provides content in the usual manner"); column 12, lines 15-20, especially lines 19-20 ("selecting the URL causes phone 374 to make the request"). Consequently, Fishman et al teaches that the content server 210/310 only outputs the data object 232/332 to the mobile gateway 250/350, and that the mobile gateway 250/350 only outputs the appropriate transformed data object (e.g., 384) to the corresponding mobile client.

Hence, Fishman neither discloses nor suggests the claimed HTTP response that is "to a

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[4]See, e.g., col. 9, lines 16-19 ("mobile clients are not required to specifically request transformed content. Rather, a mobile client simply requests content, such as data object 232. ... In cases where the content is available ... the appropriate transform is applied to the content [and the] newly transformed content is then added to the cache and sent to the requesting mobile client."); col. 10, lines 51-54 ("Although phone 274, pager 276, PDA 278, and mobile gateway 279 all may request the same data object 232, each may receive a transformed data object that differs from the transformed data object received by the others."); col. 12, lines 20-25 and 45-48 ("Selecting the URL causes phone 374 to make the request. Mobile gateway 350 uses mobile client data 352 to identify the transform associated with phone 374. With the URL and associated transform, cache 380 is examined to see if the requested content is available. ... Mobile gateway 350 applies transform A 354 to data object 382 and sends the transformed content to phone 374 using communication link 364.").

device" or "from the destination server" and that includes the requested content ("first content object") ***plus*** a directive for prefetching a second content object, the directive being distinct from presentation of the first content object.

During a personal interview conducted on December 20, 2005 between the undersigned and Examiners Dinh and Tran, the Examiners argued that the caching by the gateway 250/350 was equivalent to the claimed prefetching. In addition the Advisory Action mailed January 30, 2006 asserts that "Fishman teaches the transform identifier (i.e., the content operation identifier) is included with the request so that the catch [sic] returns (i.e., an HTTP response as prefetching *because the catch [sic] returns may transform Web content*, see col. 4, lns. 9-18 and col. 12, lines 29-31) the appropriate transform content {col. 13, lns. 36-46)."

This Argument in the Advisory Action demonstrates the fundamental deficiency in the rejection: the Examiner apparently argues the disclosed retrieval of cached content by the gateway 250/350 is a teaching of the "first content object" that is requested by the user device and that *transformed* content by the mobile gateway 250/350 is a teaching of the claimed "prefetching", without recognizing that any HTTP response that is output to the device (or received from the destination server) must include both the requested first content object and the directive for prefetching the second content object.

Hence, in addition to the claimed "directive for prefetching" being unreasonably interpreted to encompass the disclosed transformation, the rejection fails to address that ***the same HTTP response*** includes ***both*** the first content object ***and*** the directive for prefetching.

Applicant traverses the tortured interpretation of the claimed "directive for prefetching" by the Examiner, as being unreasonable: the broadest *reasonable* interpretation must be (1) consistent with the specification, and (2) consistent with the interpretation that those skilled in the art would reach.[5] The specification explicitly describes prefetching as fetching new content

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[5]"During patent examination, the pending claims must be 'given their broadest reasonable interpretation consistent with the specification.'" MPEP §2111 at 2100-46 (Rev. 3, Aug. 2005) (*quoting In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000)).

without relying on a client request to provide content acceleration (see, e.g., Title, page 10, line 12 to page 11, line 2) of the second content object, and each of the claims specify that the second content object that is to be prefetched is explicitly identified in the HTTP response, and is distinct from ***presentation of the first content object by the device***.

Further, use of the term "prefetching" is notoriously well known in the art as fetching *prior to being requested*. The Examiner has failed to provide any evidence that one skilled in the art would interpret the claimed "prefetching" with the disclosed "transforming", and in fact such equivalency is impossible because the claimed "prefetching" refers to fetching content prior to being requested whereas the disclosed "transforming" refers to **changing** the available content.

Hence, the Examiner's interpretation of "prefetching" is inconsistent with the specification and inconsistent with the interpretation that those skilled in the art would reach, and therefore is unreasonable. *Cf. In re Cortright*, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

Regardless of the foregoing, Fishman et al. teaches that the gateway 250/350 receives from the server 210/310 an HTTP response including requested content, and that each client device (e.g., 274/374, 276/376) receives **transformed content**; however, the claims explicitly specify that the ***first content object*** is to be displayed by the device, and that the "directive for prefetching" is for the second content object distinct from presentation of the first content object by the device.

Hence, the claims explicitly specify that the HTTP response, that includes both the first content object and the directive for prefetching, is sent ***to the device*** in claim 1, received ***from the destination server*** in claims 13 and 32, and output ***by the interface of the server*** of claim 20.

Hence, the deliberate disregard of the claimed feature of a single HTTP response including both the first content object (for presentation of the first content object) and the directive for prefetching the second content object distinct from the presentation of the first

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"The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach." MPEP §2111.01 at 2100-47 (Rev. 3, Aug. 2005) (*citing In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)).

content object is reversible error because "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

For these and other reasons, the §102 rejection of independent claims 1, 13, 20, and 32 should be withdrawn.

A2. Fishman et al. Does Not Disclose or Suggest the Claimed Predictive Caching of Claims 1 and 20

Independent claims 1 and 20 further specify that the second content object is "determined as relevant to the first content object by a ***predictive caching operation***." As described in the specification, the prefetching of "relevant" content enables the acceleration of web content that has not yet been requested by a user. In addition, the server explicitly identifies the second content objects as relevant to the first content object using the predictive caching, enabling the second content object to be identified without any involvement by any user (see, e.g., page 9, lines 6-10).

Fishman et al. provides no reference whatsoever to any *predictive* caching, and as described above relies solely on conventional caching that requires content to be initially requested by a user: no data is retrieved until specifically selected by a user device. Since Fishman et al. does not disclose each and every claim limitation, this rejection must be withdrawn, since all words must be considered. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

For these and other reasons, the §102 rejection of independent claims 1 and 20 should be withdrawn.

A3. Fishman et al. Does Not Disclose the Claimed Extensible HTTP Header of Claims 6, 11, 25 and 30

Fishman et al. provides no disclosure or suggestion for the claimed "inserting into the

HTTP response at least one extensible HTTP header that specifies the content operation identifier including said directive to be performed by the device and an object identifier that specifies a location of the second content object", as recited in claims 6, 11, 25, and 30 and illustrated in Figure 2B (see Summary of Claimed Subject Matter *supra*).

Rather, Fishman et al. simply specifies that transforms (e.g., 254/354, 256/356, 258, 259) used by the gateway 250/350 are associated for a given client device (e.g., 274/374, 276/376, 278, 279) in order to automatically transform client data to the appropriate format (see cols. 9 and 10): the transformed content also may be added to the cache by the mobile gateway 250 (see, e.g., col. 9, lines 15-30).

The disclosed device-specific transform of data, however, is not a disclosure of the claimed ***insertion*** into the HTTP response of "at least one ***extensible HTTP header*** that specifies the content operation identifier including said directive ... and an object identifier that specifies a location of the second content object." Since Fishman et al. does not disclose each and every claim limitation, this rejection must be withdrawn, since all words must be considered. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

B. Claims 3-5, 8-10, 15-17, 22-24, 27-29, and 34-36 are Not Rendered Obvious Under 35 USC §103 In View of Fishman et al. and Schloss

The §103 rejection of claims 3-5, 8-10, 15-17, 22-24, 27-29, and 34-36 is improper because it fails to provide any evidence that establishes that one skilled in the art would have been motivated to modify Fishman et al, to include the teachings of Schloss, in order to obtain the claimed features in the manner claimed. "Teachings of references can be combined only if there is some suggestion or incentive to do so." *In re Fine*, 5 USPQ2d 1596,1600 (Fed. Cir. 1988) (quoting *ACS Hosp. Sys. v. Montefiore Hosp.*, 221 USPQ 929, 933 (Fed. Cir. 1984)) (emphasis in original).

An obviousness rejection requires a specific showing as to why one of ordinary skill in

the art would have selected the components for combination in the manner claimed.[6] "The examiner's conclusory statements ... do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and [cannot] be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'" *In re Lee,* 61 USPQ2d at 1434 (*quoting W.L. Gore v. Garlock, Inc.,*, 202 USPQ 303, 312-13 (Fed. Cir. 1983)).

Claims 3, 8, 15, 22, 27, and 34 each specify that the content operation identifier in the HTTP response contains a ***directive tag*** specifying the corresponding operation and an object identifier specifying a location of the second content object. In addition, claims 3, 8, 22 and 27 specify the specific operation of ***adding*** to the first content object a content operation tag that specifies the content operation identifier including the directive tag.

As admitted in the Final Action, Fishman does not disclose "adding to the first content object a content operation tag that specifies the content operation identifier". As described below, however, (1) Schloss does not disclose or suggest the claimed ***adding*** the content operation tag to the existing first content object, but rather replaces noncacheable content with identifiers; (2) further, Schloss replaces the noncacheable content with an identifier, and does not disclose or suggest adding a ***directive***, as claimed.

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[6]*Cf. In re Lee*, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (*quoting In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art that would lead that individual to combine the relevant teachings of the references").

Schloss discloses replacing portions of a web page (persistent object fragments) with identifiers in the web page in order to improve the caching ability of the web page. In particular, Schloss describes that typically "a document is not cached even if only a small fraction of its content is dynamic" (col. 2, lines 21-22); hence, Schloss describes a system that parses a web object (i.e., a web page) to identify "persistent object fragments" (e.g., dynamic objects or large objects deemed uncacheable), and replace the persistent object fragments with "persistent object fragment *identifiers*" that render the modified web page more cacheable at the client device. (See, e.g., Figs. 2-8, col. 4, lines 39-54; col. 5, line 36 to col. 6, line 46; col. 7, lines 7-38; and col. 9, lines 7-55).

In particular, Schloss specifies at col. 9, lines 49-55:

> According to the present invention, the server uses persistent object fragment identifiers to replace persistent object fragments (such as dynamic objects or large segments) in a Web object. The revised object is thus more cacheable at the client device, since the server has removed the dynamic or large objects from the object and reduced the size of the object.

Although Schloss improves caching of web content, Schloss provides no disclosure whatsoever of ***prefetching content***, as claimed. Rather, Schloss modifies a web page to make the web page more cacheable, and sends the modified web page having improved cacheability to a destination device.

Further, there is no disclosure or suggestion in Schloss of ***adding*** a content *operation* tag; rather Schloss simply replaces uncacheable objects with "persistent object fragment *identifiers*" that render the modified web page more cacheable at the client device.

Assuming one skilled in the art would modify Fishman et al. with Schloss to render uncacheable objects more cacheable within the mobile gateway 250/350 of Fishman et al., this hypothetical combination still would neither disclose nor suggest the claimed ***adding*** in claims 3, 8, 22, and 27 to the first content object a ***directive tag***, let alone receiving an HTTP response that includes the first content object ***and the directive tag***, as specified in claims 3, 8, 15, 22, 27, and 34. Rather, the hypothetical combination simply would teach replacing uncacheable objects with **identifiers**.

There is no disclosure or suggestion that one skilled in the art would modify the hypothetical combination to ***add*** to the first content object a ***directive tag***, as claimed. The Examiner's assertions of obviousness, while not improper in the context of rendering uncacheable objects more cachaeable, does not address the claimed HTTP response including a ***directive tag***, let alone ***adding the directive tag***. Rather, the hypothetical combination and the Examiner's assertions provide no more than replacing uncacheable objects with identifiers.

Since the Examiner's rejection fails to address the claimed directive tag (as opposed to a simple identifier replacing an uncacheable object), the §103 rejection must be reversed.[7]

Conclusion

For the reasons set forth above, it is clear that Appellant's claims 1-38 are patentable over the references applied. Accordingly the appealed claims 1-38 should be deemed patentable over the applied references. It is respectfully requested that this appeal be granted and that the Examiner's rejections be reversed.

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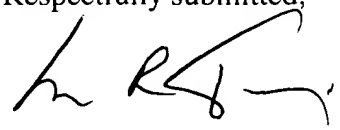
[7]It is well settled that each and every claim limitation must be considered. As specified in MPEP §2143.03, entitled "**All Claim Limitations Must Be Taught or Suggested**": "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). 'All words in a claim must be considered in judging the patentability of that claim against the prior art.' *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." MPEP §2143.03 at 2100-139 (Rev. 3, Aug. 2005).

To the extent necessary, Appellant petitions for an extension of time under 37 C.F.R. 1.136 and 37 C.F.R. 41.37(e). Please charge any shortage in fees due in connection with the filing of this paper, including any missing or insufficient fees under 37 C.F.R. 1.17(a) or 41.20(b)(2), to Deposit Account No. 50-1130, under Order No. 95-472, and please credit any excess fees to such deposit account.

Respectfully submitted,



Leon R. Turkevich
Registration No. 34,035

Customer No. 23164
February 22, 2006

APPENDIX – CLAIMS ON APPEAL

1. (PREVIOUSLY PRESENTED) A method of providing content to a device according to Hypertext Transport Protocol (HTTP), the method comprising:

receiving an HTTP request for a first content object;

identifying a content operation identifier that identifies a corresponding second content object determined as relevant to the first content object by a predictive caching operation, the content operation identifier including a directive for prefetching the second content object as a content operation distinct from presentation of the first content object by the device; and

sending to the device an HTTP response to the HTTP request, the HTTP response including the first content object and the content operation identifier, enabling the device to perform the prefetching of the second content object based on receipt of the content operation identifier and distinct from the presentation of the first content object.

2. (ORIGINAL) The method of claim 1, wherein the identifying step includes retrieving, based on retrieval of a first stored file containing the first content object, a second stored file associated with the first stored file and containing the content operation identifier.

3. (ORIGINAL) The method of claim 2, wherein the sending step includes adding to the first content object a content operation tag that specifies the content operation identifier including a directive tag specifying the corresponding content operation to be performed by the device and an object identifier that specifies a location of the second content object.

4. (ORIGINAL) The method of claim 3, wherein the first content object is a Hypertext Markup Language (HTML) document, the adding step including inline prepending the content operation tag from the second stored file into the HTML document.

5. (PREVIOUSLY PRESENTED) The method of claim 4, wherein the content operation

identifier further includes a second directive tag specifying purging a third content object from a cache.

6. (PREVIOUSLY PRESENTED) The method of claim 2, wherein the sending step includes inserting into the HTTP response at least one extensible HTTP header that specifies the content operation identifier including said directive to be performed by the device and an object identifier that specifies a location of the second content object.

7. (PREVIOUSLY PRESENTED) The method of claim 6, wherein the content operation identifier further includes a second directive that specifies purging a third content object.

8. (ORIGINAL) The method of claim 1, wherein the sending step includes adding to the first content object a content operation tag that specifies the content operation identifier including a directive tag specifying the corresponding content operation to be performed by the device and an object identifier that specifies a location of the second content object.

9. (ORIGINAL) The method of claim 8, wherein the first content object is a Hypertext Markup Language (HTML) document, the adding step including inline prepending the content operation tag into the HTML document.

10. (PREVIOUSLY PRESENTED) The method of claim 9, wherein the content operation identifier further includes a second directive tag specifying purging a third content object from a cache.

11. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the sending step includes inserting into the HTTP response at least one extensible HTTP header that specifies the content operation identifier including directive to be performed by the device and an object identifier that specifies a location of the second content object.

12. (PREVIOUSLY PRESENTED) The method of claim 11, wherein the content operation identifier further includes a second directive specifying purging a third content object from a cache.

13. (PREVIOUSLY PRESENTED) A method of retrieving content for a device according to Hypertext Transport Protocol, the method comprising:

first sending an HTTP request for a first content object, received from the device, to a destination server specified by the HTTP request;

receiving from the destination server an HTTP response to the HTTP request that includes the first content object and a content operation identifier that specifies a directive for prefetching an identified second content object as an operation to be performed on the identified second content object and distinct from presentation of the first content object;

second sending the first content object to the device; and

executing the operation of prefetching the second content object in response to the content operation identifier.

14. (ORIGINAL) The method of claim 13, wherein the executing step includes:

detecting the content operation identifier based on parsing the HTTP response; and

accessing the identified second content object for execution of the operation.

15. (ORIGINAL) The method of claim 14, wherein the detecting step includes parsing a markup language document within the HTTP response and containing the first content object and the content operation identifier, the content operation identifier including a directive tag specifying the corresponding operation and an object identifier specifying a location of the second content object.

16. (ORIGINAL) The method of claim 15, wherein the parsing step includes detecting the directive tag as an Hypertext Markup Language (HTML) tag inline prepended to an HTML

document specifying the first content object.

17. (PREVIOUSLY PRESENTED) The method of claim 16, wherein the executing step further includes purging a third content object from a cache in response to a second directive tag specified in the markup language document.

18. (PREVIOUSLY PRESENTED) The method of claim 14, wherein the parsing step includes parsing the content operation identifier from an HTTP header within the HTTP response, the content operation identifier including said directive and an object identifier specifying a location of the second content object.

19. (PREVIOUSLY PRESENTED) The method of claim 18, wherein the executing step further includes purging a third content object from a cache in response to a second directive tag specified in the HTTP response.

20. (PREVIOUSLY PRESENTED) A server configured for providing content to a device according to Hypertext Transport Protocol (HTTP), the server comprising:

an interface configured for receiving an HTTP request for a first content object and outputting an HTTP response; and

an executable process configured for identifying a content operation identifier that identifies a corresponding second content object determined as relevant to the first content object by a predictive caching operation, the content operation identifier including a directive for prefetching the second content object as a content operation distinct from presentation of the first content object by the device, the executable process configured for supplying within the HTTP response the first content object and the content operation identifier, enabling the device to perform the prefetching of the second content object based on receipt of the content operation identifier within the HTTP response and distinct from the presentation of the first content object.

21. (ORIGINAL) The server of claim 20, wherein the executable process is configured for retrieving, based on retrieval of a first stored file containing the first content object, a second stored file associated with the first stored file and containing the content operation identifier.

22. (ORIGINAL) The server of claim 21, wherein the executable process is configured for adding to the first content object a content operation tag that specifies the content operation identifier including a directive tag specifying the corresponding content operation to be performed by the device and an object identifier that specifies a location of the second content object.

23. (ORIGINAL) The server of claim 22, wherein the first content object is a Hypertext Markup Language (HTML) document, the executable process configured for inline prepending the content operation tag from the second stored file into the HTML document.

24. (PREVIOUSLY PRESENTED) The server of claim 23, wherein the content operation identifier further includes a second directive tag specifying purging a third content object from a cache.

25. (PREVIOUSLY PRESENTED) The server of claim 21, wherein the executable process is configured for inserting into the HTTP response at least one extensible HTTP header that specifies the content operation identifier including said to be performed by the device and an object identifier that specifies a location of the second content object.

26. (PREVIOUSLY PRESENTED) The server of claim 25, wherein the content operation identifier further includes a second directive that specifies purging a third content object.

27. (ORIGINAL) The server of claim 20, wherein the executable process is configured

for adding to the first content object a content operation tag that specifies the content operation identifier including a directive tag specifying the corresponding content operation to be performed by the device and an object identifier that specifies a location of the second content object.

28. (ORIGINAL) The server of claim 27, wherein the first content object is a Hypertext Markup Language (HTML) document, the executable process configured for inline prepending the content operation tag into the HTML document.

29. (PREVIOUSLY PRESENTED) The server of claim 28, wherein the content operation identifier further includes a second directive tag specifying purging a third content object from a cache.

30. (PREVIOUSLY PRESENTED) The server of claim 20, wherein the executable process is configured for inserting into the HTTP response at least one extensible HTTP header that specifies the content operation identifier including said directive to be performed by the device and an object identifier that specifies a location of the second content object.

31. (PREVIOUSLY PRESENTED) The server of claim 30, wherein the content operation identifier further includes a second directive specifying purging a third content object from a cache.

32. (PREVIOUSLY PRESENTED) A proxy device configured for retrieving content for a device according to Hypertext Transport Protocol, the proxy device comprising:

an HTTP interface configured for sending an HTTP request for a first content object, received from the device, to a destination server specified by the HTTP request, and receiving from the destination server an HTTP response to the HTTP request that includes the first content object and a content operation identifier that specifies a directive for prefetching an identified

second content object as an operation to be performed on an identified second content object and distinct from presentation of the first content object; and

an executable resource configured for sending via the HTTP interface the first content object to the device, and executing the operation of prefetching the second content object in response to the content operation identifier.

33. (ORIGINAL) The proxy device of claim 32, wherein the executable resource is configured for parsing the HTTP response to detect the content operation identifier, the executable resource accessing the identified second content object for execution of the operation.

34. (ORIGINAL) The proxy device of claim 33, wherein the executable resource is configured for parsing a markup language document within the HTTP response and containing the first content object and the content operation identifier, the content operation identifier including a directive tag specifying the corresponding operation and an object identifier specifying a location of the second content object.

35. (ORIGINAL) The proxy device of claim 34, wherein the executable resource is configured for detecting the directive tag as an Hypertext Markup Language (HTML) tag inline prepended to an HTML document specifying the first content object.

36. (PREVIOUSLY PRESENTED) The proxy device of claim 35, wherein the executable resource is further configured for any purging a third content object from a cache in response to a second directive tag specified in the markup language document.

37. (PREVIOUSLY PRESENTED) The proxy device of claim 33, wherein the executable resource is configured for parsing the content operation identifier from an HTTP header within the HTTP response, the content operation identifier including said directive and an object identifier specifying a location of the second content object.

38. (PREVIOUSLY PRESENTED) The proxy device of claim 37, wherein the executable resource is configured for purging a third content object from a cache in response to a second directive tag specified in the HTTP response.